



Hoagland selected as a new Materials Research Society Fellow

July 9, 2013

Richard G. Hoagland of the Laboratory's Materials Science in Radiation and Dynamic Extremes group has been honored with the rank of Fellow by the Materials Research Society (MRS). Hoagland is cited for "outstanding contributions in fracture mechanics and atomistic modeling of dislocation mechanisms of deformation and fracture of metals, ceramics and nanolayered composites."

Achievements

Hoagland received a doctorate from The Ohio State University. He worked at Battelle Columbus until moving to academia (Vanderbilt, Ohio State, and Washington State University). He has been a professor emeritus at Washington State University since 1999. Hoagland spent a year as the prestigious Bernd T. Matthias Scholar in Los Alamos National Laboratory's Center for Materials Science. He served as a consultant for Los Alamos as well as Pacific Northwest National Laboratory from 2000-2003. Hoagland became a senior staff scientist at Los Alamos in 2003. He retired in 2009 and continues as a laboratory associate at Los Alamos. His career in materials science (1962-present) has spanned over 50 years serving all three sectors: industrial R&D, university, and national laboratories. Hoagland is the only scientist in the history of Los Alamos to be honored with the rank of Fellow in all three materials science professional societies: American Society of Metals, International (ASM); The Minerals, Metals and Materials Society (TMS); and MRS.

Hoagland has made notable contributions in both experimental and computational materials research. He helped develop an ASTM method for measuring plane-strain crack-arrest fracture toughness. This method is used to evaluate the safety of nuclear reactor pressure vessels. Hoagland was the first to employ flexible boundary conditions (FLEX II) in atomistic models of defects that enabled significant improvement in computational speed and accuracy, as early as 1970. He has championed atomistic modeling of fracture, hydrogen embrittlement and toughening mechanisms in ceramics. At Los Alamos, he led atomistic modeling of deformation mechanisms in nanolayered materials, and made important discoveries about the atomic structures of interphase boundaries that formed the foundation to create the Center for Materials and Irradiation and mechanical Extremes (CMIME), one of the Laboratory's DOE Energy Frontier Research Centers.

About the Materials Research Society

The Materials Research Society (MRS) is an organization of materials researchers that promotes the advancement of interdisciplinary materials research to improve the

quality of life. More than 16,000 materials researchers from academia, industry, and government compose the MRS.

The MRS Fellow program recognizes outstanding members whose sustained and distinguished contributions to the advancement of materials research are internationally recognized. The number of new Fellows selected each year is capped at 0.2 percent of the current total MRS membership of over 16,000 members from 70 countries. MRS started their Fellows program in 2008, and each year approximately 25 Fellows are inducted.

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